

REMARKS

Claims 1-4 and 6-22 are pending. Claim 5 has been canceled.
No new matter has been added.

Rejections under 35 U.S.C. § 1.112

The rejection of selected claims under 35 U.S.C. § 112 is traversed, but is moot in view of the amendments now made. Claim 5 was not rejected. The limitations of claim 5 have been introduced into claim 1 and therefore all other pending claims, thus overcoming the rejection.

Claims 14 and 17 have also been amended are believed to overcome the rejection.

Rejection under 35 U.S.C. § 102

The rejection under 35 U.S.C. § 102 is traversed. In any case, as presently amended, none of the claims read on any of the references. The disclosure of the references and their relationship to the claims is discussed below.

Suthar

Suthar et al USP 6,225,370 (Suthar) neither discloses nor suggests the claimed invention. In Example 2 of Suthar a silicone graft polymer may be prepared by reacting methacrylic acid with methacryloyl terminated polydimethylsiloxane. However, as described in Suthar column 18, line 7, the resultant powder

is dissolved in deionized water. Suthar Tables 1 and 3 also show the use of deionized water. Thus, Suthar is concerned with an aqueous ink composition for ink jet recording wherein the silicone polymer is dissolved. Such is not the present invention. The present invention relates to an ink using an organic solvent wherein a silicone graft polymer is not dissolved but rather is dispersed in the organic solvent.

It is thus clear that Suthar is entirely irrelevant to the present invention. Therefore, the present invention is both novel and unobvious over Suthar.

Tsubuko

Tsubuko et al. USP 5,952,048 (Tsubuko) discloses a silicone resin for an ink jet recording composition. As seen from the preparation of Resin No. 2 (Tsubuko column 9), the silicone resin is prepared from a large amount of a silicone compound, i.e. reactive silicone)/(salt of humic acid + reactive silicone + styrene + maleic anhydride + benzoyl peroxide) = 53.6 wt%. The Tsubuko resin prepared from such a large amount of silicone compound is not adsorbed onto the surface of a pigment but rather is dissolved in a solvent. Thus, the resin does not contribute to dispersion of a pigment, as is the case in the present invention, as shown for example by "Preparation Example 1" beginning on line 1 of page 32 of the specification as filed. In that example the silicone graft polymer is prepared from a

relatively small amount of a silicone compound, that is, (X-22-174DX)/(n-butyl methacrylate + lauryl methacrylate + styrene + methacrylic acid + glycidyl methacrylate + "X-22-174DX" + "Perbutyl O" = 11.1 wt%. As a result, the silicone graft polymer is adsorbed onto the pigment dispersed in the organic solvent.

It is thus clear that Tsubuko is also entirely irrelevant to the patentability of the present invention. Accordingly, the present invention is unobvious over Tsubuko even if the teachings of Tsubuko are combined with those of Suthar and/or those of Ryntz et al. USP 4,673,718.

Conclusion

As explained above, the present invention is both novel and unobvious over the cited references even if the teachings thereof are combined with one another.

Pursuant to the provisions of 37 C.F.R. § 1.17 and 1.136(a), Applicants hereby petition for an extension of two (2) months to November 25, 2002 for the period in which to file a response to the outstanding Office Action. The required fee of \$400.00 is attached hereto.

Summary


Should there be any outstanding matters that need to be resolved in the present application, the Examiner is


respectfully requested to contact David R. Murphy (Reg. No. 22,751) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and further replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

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Attachment: Marked-Up Version Showing Changes to Claims

MARKED-UP VERSION SHOWING CHANGES TO CLAIMS

Claims 5 is canceled.

The claims are amended as follows:

1. (Amended) An ink for ink jet printers which contains a pigment and an organic solvent wherein [where] a silicone graft polymer is present [contained] in the ink and is dispersed in the organic solvent in the form of particles having a particle diameter of 0.01-0.3 μm and in such a state that [as] the silicone graft polymer is [being] adsorbed by [to] at least a portion [part] of the outer surface of the pigment, wherein the organic solvent has a small polarity and an electrical resistivity of not lower than $10^9 \Omega \cdot \text{cm}$, and the organic solvent is present in an amount of 50-10000 parts by weight based on 100 parts by weight of the pigment.

Claim 14. (Amended) An ink for ink jet printers according to claim 1, wherein the silicone graft polymer is an acrylic [high molecular] compound.

Claim 17. (Amended) An ink for ink jet printers according to claim 16, wherein the [crosslinkage is] silicone graft polymer is crosslinked with an ester linkage.